

Measurement of normalized differential  $t(t)$  over-bar cross sections in the dilepton channel from pp collisions at root s=13 TeV

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Abstract

Normalized differential cross sections for top quark pair production are measured in the dilepton ( $e^{+}e^{-}$ ,  $\mu^{+}\mu^{-}$ ), and  $\mu^{+}e^{-}$ ,  $e^{+}\mu^{-}$ ) decay channels in proton-proton collisions at a center-of-mass energy of 13 TeV. The measurements are performed with data corresponding to an integrated luminosity of 2.1 fb<sup>-1</sup> using the CMS detector at the LHC. The cross sections are measured differentially as a function of the kinematic properties of the leptons, jets from bottom quark hadronization, top quarks, and top quark pairs at the particle and parton levels. The results are compared to several Monte Carlo generators that implement calculations up to next-to-leading order in perturbative quantum chromodynamics interfaced with parton showering, and also to fixed-order theoretical calculations of top quark pair production up to next-to-next-to-leading order.

Keywords

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